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IN THE CLAIMS:

Claims 1 - 20 (Canceled).

21. (Previously Presented) A method for processing an OFDM signal received over a wireless communication channel, said OFDM signal comprising a packet of a number N of OFDM blocks, each OFDM block comprising a number K of signal tones, the method comprising the steps of

sequentially receiving N channel-impaired OFDM blocks;
computing noisy channel estimates, based on said channel-impaired blocks;
arranging the noisy channel estimates into a first array having a first axis representative of a frequency index of the noisy channel estimates and a second axis representative of a time index of the noisy channel estimates;
performing a two-dimensional inverse Fourier transform on said first array;
multiplying the inverse Fourier transformed first array with a second array representing a two-dimensional filter to thereby form a third array; and
performing a two-dimensional Fourier transform on said third array to thereby form a fourth array comprising elements representative of an estimate of channel parameters for said wireless communication channel.

22. (Currently Amended) The method of claim 21, wherein the two-dimensional filter is a diamond shaped filter.

23. (Currently Amended) The method of claim 21, wherein said step of computing the noisy channel estimates is performed by multiplying the elements of each channel-impaired OFDM block with corresponding reference pilot symbol values known to have been inserted into that block upon transmission.

24. (Currently Amended) The method of claim 21, wherein said step of computing the noisy channel estimates is performed by multiplying the elements of each channel-impaired OFDM block with corresponding estimates of a demodulated signal.

25. (Currently Amended) The method of claim 21, wherein said step of computing the noisy channel estimates is performed by multiplying the elements of each channel-impaired OFDM block with corresponding estimates of a decoded signal.

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26. (Currently Amended) The method of claim 21, wherein said step of sequentially receiving the N blocks is performed at the receiver by a plurality of antennas, each of said antennas sensing N channel-impaired blocks.

27. (Presented Presented) A method of estimating channel parameters for a wireless communication channel by transmitting a signal from a transmitter to a receiver, the method comprising the steps of:

inserting pilot symbols at predetermined positions in a plurality of blocks, each block comprising a plurality of data symbols representative of a signal being transmitted;
sequentially transmitting each of said plurality of blocks over a finite number of tones, said finite number of tones being broadcast substantially simultaneously for each block;

sequentially receiving a corresponding plurality of channel-impaired blocks at the receiver;

computing a corresponding plurality of noisy channel estimates from said plurality of channel-impaired blocks;

arranging the plurality of noisy channel estimates into a first array having a first axis representative of a frequency index of the noisy channel estimates and a second axis representative of a time index of the noisy channel estimates;

performing a two-dimensional inverse Fourier transform on said first array;

multiplying the inverse Fourier transformed first array with a second array representing a two-dimensional filter to thereby form a third array; and

performing a two-dimensional Fourier transform on said third array to thereby form a fourth array comprising elements representative of the channel parameters.

28. (Currently Amended) The method of claim 27, wherein said pilot symbols are inserted with a non-rectangular pattern in a 2-dimensional array that comprises tone bins along one dimension and time along the other dimension.